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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

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Applicant's or agent's file reference NONE	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/US02/41909	International filing date (day/month/year) 31 December 2002 (31.12.2002)	Priority date (day/month/year) 09 January 2002 (09.01.2002)
International Patent Classification (IPC) or national classification and IPC IPC(7): C02F 1/32, 1/38; B01D 21/26 and US Cl.: 210/304, 748, 108, 788, 739		
Applicant NILSEN, BIRGER		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 5 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of ___ sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of report with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

EPO-DG 1

03. 09. 2004

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Date of submission of the demand 07 August 2003 (07.08.2003)	Date of completion of this report 21 July 2004 (21.07.2004)
Name and mailing address of the IPEA/US Mail Stop PCT, Attn: IPEA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230	Authorized officer Duane Smith Telephone No. 571-272-0987

Form PCT/IPEA/409 (cover sheet)(July 1998)

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US02/41909

I. Basis of the report

1. With regard to the elements of the international application:*

- ☒ the international application as originally filed.
- ☒ the description:
 pages 1-11 as originally filed
 pages NONE, filed with the demand
 pages NONE, filed with the letter of _____
- ☒ the claims:
 pages 12-19 as originally filed
 pages NONE, as amended (together with any statement) under Article 19
 pages NONE, filed with the demand
 pages NONE, filed with the letter of _____
- ☒ the drawings:
 pages 1-5 as originally filed
 pages NONE, filed with the demand
 pages NONE, filed with the letter of _____
- ☐ the sequence listing part of the description:
 pages NONE as originally filed
 pages NONE, filed with the demand
 pages NONE, filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in printed form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages NONE
- ☐ the claims, Nos. NONE
- ☐ the drawings, sheets/figs NONE

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

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V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. STATEMENT

Novelty (N)	Claims <u>2-12 and 16-20</u>	YES
	Claims <u>1 and 13-15</u>	NO
Inventive Step (IS)	Claims <u>2-12 and 16-20</u>	YES
	Claims <u>1 and 13-15</u>	NO
Industrial Applicability (IA)	Claims <u>1-20</u>	YES
	Claims <u>NONE</u>	NO

2. CITATIONS AND EXPLANATIONS

Please See Continuation Sheet

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Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

Claims 1 and 13-15 lack novelty under PCT Article 33(2) as being anticipated by U.S. patent no. 4,271,019 to Galletti. Galletti describes a filter separator apparatus and method for removing particles from a liquid. Galletti describes feeding a liquid under pressure through a tangential inlet pipe (pipe 11) into an inlet chamber (chamber 10) and passing the liquid through a screen filter (filter element 9). Solid particles are removed from the filter element by reverse flow of liquid. The particles and liquid are discharged through a sludge outlet (valve 3). The liquid free of particles is discharged through an outlet (outlet 23).

Claim 2 meets the criteria set out in PCT Article 33(2)-(3), because the prior art does not teach or fairly suggest a filter separator apparatus further including an ultraviolet light.

Claims 3-6 meet the criteria set out in PCT Article 33(2)-(3), because the prior art does not teach or fairly suggest a filter separator apparatus having a conical inlet chamber having a tangential inlet, a separation and filter chamber, a discharge chamber with an outlet, an inlet backflushing pipe, a screen filter, a lower outlet pipe aligned along an axis with an upper outlet.

Claims 7 and 8 meet the criteria set out in PCT Article 33(2)-(3), because the prior art does not teach or fairly suggest a filter separator system having a pump, a first control valve for the inlet, an inlet chamber having a tangential inlet pipe, a separation and filter chamber, a discharge chamber with an outlet, a screen filter, first and second outlet pipes, a second control valve for backflush, a third control valve for maintaining back pressure, and a fourth control valve for regulating sludge discharge.

Claims 9 and 10 meet the criteria set out in PCT Article 33(2)-(3), because the prior art does not teach or fairly suggest a filter separator system having a pump, a control valve for the inlet, an inlet chamber having a tangential inlet pipe, a separation and filter chamber, a discharge chamber with a sludge outlet, a screen filter, first and second outlet pipes, a water accumulation tank, a control valve for backflush, an air accumulation tank and control valve, a back pressure control valve, and a sludge control valve.

Claims 11 and 12 meet the criteria set out in PCT Article 33(2)-(3), because the prior art does not teach or fairly suggest a filter separator system having a pump, an inlet control valve, an inlet chamber having a tangential inlet pipe, a separation and filter chamber, a discharge chamber with a sludge outlet, a screen filter, first and second inlet and outlet pipes, a control valve for backflush, a water accumulation tank and control valve, an air accumulation tank and control valve, a back pressure control valve, and a sludge control valve.

Claims 16-19 meet the criteria set out in PCT Article 33(2)-(3), because the prior art does not teach or fairly suggest a method of removing particles further including purging the filter by backflushing with air, maintaining a back pressure on the liquid flow, metering the flows, or subjecting the discharged liquid to ultraviolet light.

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Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

Claim 20 meets the criteria set out in PCT Article 33(2)-(3), because the prior art does not teach or fairly suggest a method of removing particles and organisms by establishing a low pressure flow of liquid, directing the flow in a helical motion, accelerating the helical motion to separate particles and organisms, passing the flow of liquid through a filter, collecting in a chamber a sludge, regulating the internal pressure of the sludge chamber, discharging the flow of liquid free of separated and filtered particles and organisms, and subjecting discharged liquid to ultraviolet light.

Claims 1-20 meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in industry.